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ORIGINAL DEPARTMENT.

LECTURE.

III. PULMONARY PHTHISIS.

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GENTLEMEN:—Last Wednesday I tried to indicate to you the different forms of chronic pulmonary disease which we most frequently meet; at what stage we are to regard them as coming under the head of phthisis; the different forms of phthisis, and their relation to tuberculosis of the lung.

Now, before examining individual cases of these different types, I will consider briefly the causes of pulmonary phthisis. On approaching this subject there are one or two questions which at once confront us. Why is it that one persons gets pulmonary phthisis after the most trifling cold, while another may have many and severe attacks without developing phthisis? Why is it that one, after a short duration of phthisis, gets tuberculosis of the lung and dies rapidly, while another, with a much more serious phthisis, lives for many years in comparative health, or else gets entirely well?

First, why is it that some get phthisis after slight attacks of pulmonary trouble? The popular answer is, at once, that they have inherited a tendency to consumption. Undoubtedly we must recognize the fact that the reason one man may have a catarrhal or croupous pneumonia and get well quickly, while another runs into a state of chronic phthisis, is partly owing to some peculiarity of the person himself, some constitutional tendency.

No one now believes that tuberculosis is inherited. Such a thing is impossible. The only thing that can be inherited is a tendency to phthisis, some peculiarity of anatomical structure or vital activity, that predisposes the individual in one or other direction. This may easily be inherited. When you remember that pulmonary phthisis destroys, taking the whole world over, one out of every five adults who die, or, perhaps, one out of every six, you can easily understand that few of us can look back upon our family history without finding some relative who has died of chronic lung disease. Take, for instance, a family of four or five children; one of these gets phthisis, and we will say that the parents and grandparents are dead; now here you have at least six persons, and it is quite likely that one of these has died of phthisis. But you may go still further, and inquire if the uncles and aunts are living; you see that you now have, perhaps, twelve or thirteen persons, and the general probabilities of disease, as the world is at present, are such that it is very likely that at least one out of this number has perished from phthisis. If you examine statistics you will find that they take into consideration, in addition, the cousins, brothers and sisters; there will thus be brought into the circle of inquiry a score or more of individuals subject to the ordinary laws of disease, and when you remember that on an average one out of every five or six dies of phthisis, in all classes and under all conditions, you will easily understand that in almost every family you will be pretty sure to come across some who have had phthisis.

Now, do such facts show any inherited disease? I think not. Unless we can find that either of the parents, previous to the conception or birth of that child, had exhibited distinct evidences of constitutional weakness, or a tendency to lung trouble, I do not think that we should say that the child had inherited its tendency from the parents. Again, every one of us is liable to become the subject of some acute attack which may pass into phthisis; so that if, after the child is born, one of the parents gets a chronic pneumonia, which passes into phthisis, that is no proof that the child will have phthisis; but if the parent, before the birth of the child, had exhibited signs of phthisis, it is probable that the child will have a similar tendency; or, if the parents are fairly well, but several of the children show marked constitutional weakness, and a tendency to lung trouble, we must say, although we cannot exactly see how it is, that they have begotten children of a weak constitution, with a tendency to pulmonary phthisis.

I want to rid you of the idea that pulmonary phthisis occurs principally in those who may be said to have an inherited tendency to it. Indeed, I do not thipk that you will be able to demonstrate such a tendency in more than one-half or one-third of your cases. If such a fallacy is allowed to exist, and a person feels that because there is no phthisis in his family he can expose himself to cold, damp, and other depressing causes without risk, there is the greatest possible danger that he will contract phthisis, for we know that at least in one-half or two-thirds of all cases of phthisis it is an acquired disease in those that have had no inherited predisposition to it. Everybody is liable to phthisis; some more so than others. Unquestionably, those are more liable to it who are born of parents of a weak constitution, especially if this has shown itself before the birth of the child, by a tendency to lung trouble, or if they have begotten other children with a tendency to phthisis. But it is not only an inherited predisposition that makes one more liable to phthisis than another. Any inherited delicacy of constitution, anything that makes the person more liable to be affected by depressing causes, anything, in short, that diminishes the vitality of the individual or his hold upon life, and tends to keep up an unhealthy type of physical action, all these are predisposing causes of phthisis. It is thus that such causes as starvation, bad food, bad hygienic surroundings, long nursing or improper food, impairing the primary assimilation during the period of development, act in a most powerful way in developing a weakness of constitution which may show itself later in a tendency to phthisis; so that a child may come into the world with this taint, or it may be developed during childhood by the causes I have mentioned; and, gentlemen, there is no time in the whole period of life when the causes that operate upon us to determine our future for good or for ill act so powerfully as during this period of childhood. A neglected catarrh, an untreated diarrhœa, may so act upon the system as to bring about this weakness of constitution. If we grasp this idea, it will lead us to infinitely greater carefulness in the hygiene and treatment of young children. The prophylaxis of phthisis you will find begins at birth, and the most important time for prophylactic treatment is during infancy.

But it is not only those who get the tendency by birth, or soon after birth, who are subject to phthisis. Many other causes tend to develop this susceptibility. Among these are various unhealthy occupations. Those that are sedentary, and keep the person in heated rooms, without proper ventilation, particularly if associated with the inhalation of irritating particles; occupations that involve the exclusion of sunlight; all these are predisposing causes. Depressing passions of every character, and excessive mental application, also act injuriously; but nothing, I think, predisposes more to phthisis than loss of sleep. A person who habitually gets insufficient sleep becomes so run down that any acute attack is very apt to run into a chronic form. Defective nutrition or insufficient food will also predispose to phthisis. Sexual excesses, particularly if they occur in persons whose constitution is somewhat depressed, from any reason, are a very fruitful cause of phthisis. I allude now to this as a fact bearing upon the prophylaxis, and any one in whom there is a slight tendency should be very careful how they expose themselves. This applies to both sexes. I have seen a person in whom there was a slight taint develop this disease within one year after marriage.

I cannot spend more time in going over these predisposing causes, but you see that they are all such as lower the nutritive power of the individual. Grouping them together, we recognize at once certain general conditions: first, an inherited defective vitality; second, an acquired sensitiveness of the system. This is shown in many individuals by a want of tone of the circulation, and diminished activity of the skin. Such people are exceedingly liable to take cold on slight

causes; now it is a cold in the head, now a sore throat, or again a slight muscular rheumatism. You find that such people do not react promptly under depressing causes. You find, as a rule, that the circulation in the extremities is defective, and a clammy condition of the skin. Third, a defective primary assimilation. In these people the digestion is easily disordered; now they have a loss of appetite, now a little diarrhœa, or again a slight gastric disturbance. They lose flesh from slight causes. With this there is apt to be a tendency to become feverish from trifling causes.

Now, if any of these conditions exist in a person, or if he has from childhood shown a feeble hold upon life, so that he has never been strong, and has grown up thin and lank, you will have a person predisposed to phthisis; and here we have the reason why, if that person gets croupous or catarrhal pneumonia, instead of throwing it off in a short time, and the cells of the part returning to a healthy mode of action, it passes into a chronic state, and thus the disease will tend to become implanted and pass into a chronic destructive form.

This, you see, is very different from simply saying that they have an inherited tendency. I have told you that at least in one-half of the cases phthisis is an acquired disease, and it is in our power to remedy or remove many of the predisposing causes. Sometimes the tendency is so marked that it takes but a slight cold to start the disease, while in others the tendency is so slight that it may require many attacks to set on foot the destructive inflammation.

Now, in the second place, why is it that some, after they get phthisis, remain for a number of years without developing tubercle, while others get tubercle on the slightest provocation? This question is more difficult to answer. This tendency to have tuberculosis seems to me to be due to inherited individual peculiarities. I have already told you what we mean by tuberculosis: that it consists in an infection, either of an organ or of the entire system, in which infection there are produced special new growths of a lymphoid character which are destructive in their tendency, so that when this infection is once set up it usually runs on to a fatal issue. Some pathologists have gone so far as to say that it is impossible to have tubercle unless there is in the body some centre of cheesy degeneration. This centre may be a syphilitic gumma, a nodule of catarrhal pneumonia, an old abscess. It makes no difference what is the origin of this centre; it is only necessary that this matter is undergoing chemical changes of a septic character, and the liquid is being absorbed into the blood vessels, and carried first into the surrounding tissue and then into the whole body. This view is unquestionably too exclusive; for instance, I have seen such a case as this: a child whose parents were living at the time, but whose father had presented marked evidence of constitutional weakness, with a tendency to lung trouble previous to the birth of the child, so that on several occasions I had been compelled to send him on a sea voyage for the benefit of his health, and who died three years after the child, of tubercular phthisis. This child, while in apparently good health, suddenly breaks out with miliary tubercules of the membranes of the brain, of the lungs, of the liver, of the spleen, of the kidney, of the peritoneum, of the intestinal mucous membrane, of the bones and of the retina, but in whom, at the autopsy, conducted by myself, in which every tissue was examined for cheesy centres, not one was found. This example shows that the statement made by many German pathologists is not correct, for it is possible that a child may have such a virulent tendency to miliary tuberculosis that the disease may be developed by the slightest exciting cause; but such cases are exceedingly rare. Whenever such a condition exists, it usually shows itself in early childhood. Undoubtedly, in the majority of cases, there is a centre of infective inflammation, particularly characterized by the inflammatory products passing into a state of cheesy degeneration, and tuberculosis is generated in consequence of the absorption from this centre of some septic matter.

The reason why one person may have such a centre of degenerating inflammatory product for months or years without developing tuberculosis, while another will not have it a fortnight without becoming infected, must be due to one of two things. Either the matter, in one case, must be far more infectious—but it is very hard to see why this should be, for you can find no difference in the character of the sputa when examined under the microscope, and there is no difference in the general symptoms in either case—or it is due, as I think more probable, to the constitution of the patient.

The absorption of these matters is either by the veins or by the lymphatics. We know that some persons are much more susceptible to certain vegetable and animal poisons than others. Just as we have this susceptibility in regard to vegetable and animal poisons, it is possible that we may have a similar susceptibility in some individuals to be infected by these cheesy centres

in the body. This may depend partly upon the power of the lymphatics in one case to eliminate the poison from the system, while in others, instead of the lymphatics passing it rapidly out of the body, the poison sets up a slow inflammation which serves to multiply and increase the poison. This may be connected with some inherited anatomical peculiarity. We may find in the lungs of those who are very susceptible to this poison, that there is a special development of the lymphatic system, or we may find that the lymphatics are unusually patulous. If it is not this, it is some peculiarity in the vital activity of the part or of the individual; that is, if it is not structural, it is functional. Therefore, I say that the reason why one person becomes tuberculous after a cheesy nodule has existed a certain time, while another does not, seems to me to depend not so much upon any change in the lung, as it does upon some individual peculiarity which makes his system exceedingly liable to septic poisoning. I believe that this tendency to tuberculosis is very often inherited. In some cases it is so virulent that it may, as in the case of the child I have alluded to, break out without any apparent cause.

Let us now turn to a consideration of the cases before us. As I have told you we have different forms of phthisis. We will first study croupous phthisis, of which we have good illustrations in these two colored men.

This man has had croupous pneumonia since May. There has been marked solidification of the upper and lower lobes, posteriorly, of the right lung. After the ordinary course of pneumonia had passed, this man's defective nutrition showed itself in the fact that the lung did not clear up, but the consolidation remained. He presented a continued febrile action; progressive emaciation; the sputa continued to be purulent, large and heavy; the râles, which, during the third stage, as the exudation became soft, were large and moist, continued so, and blowing respiration was also heard.

He came into the hospital in this condition. The croupous pneumonia had become a chronic pneumonia. It had become so either from the extreme violence of the attack, or from the defective vitality of the individual. When he was admitted it was a question whether this man would run into a croupous phthisis, or whether the lung would clear up. I am happy to say that the greater part of this exudation has been absorbed. I can find only one spot where there is evidence of destruction of lung tissue. In this man, then, where there is a clear family history and good previous health, the acute attack of pneumonia, his nutrition being so good, does not seem to have led to any very serious phthisis, and the man is getting well.

In this other man, Taylor, there was a croupous pneumonia of the lower lobe of the left lung. When I first saw him it was in a state of solidification. There was flatness on percussion from the spine, following the curve of the left lower lobe around to the front, and over this area there was tubular breathing. The expectoration was purulent, with large, solid, nummular sputa. He had febrile action every day, of a hectic type, sweating at nights, and had undergone a moderate degree of emaciation.

In the colored race there is an unusual tendency for pulmonary diseases to become chronic and run into phthisis. This is especially true where they live in cold climates, but it is not nearly as true of the full-blooded African, as it is of the dilution of the colored race with white blood. The tendency of this latter class to phthisis from the slightest causes is recognized everywhere.

In this case we can get no family history. After his condition had continued some time, it became evident that this man's constitution was failing to throw off the disease. In what way did this show itself? How are we to tell that a croupous pneumonia is passing into croupous phthisis? We will be led to fear this if the solidification remain, with loss of flesh and strength, a tendency to night sweats, and the expectoration of purulent matter continue; and if, in this condition, hemorrhage occurs, it is an ominous sign that breaking down of the lung tissue is not far distant. This man has had hemorrhage. If, in addition, we have in one spot the râles becoming larger and looser, if the respiratory murmur becomes cavernous, increased in volume and more hollow in character, if the vocal resonance, instead of being simply intensified, becomes pectoriloquous, there are reasons to fear that at that spot breaking down has occurred, with the formation of a cavity.

Now before this occurs, as I have already told you, one of two things must happen; either the inflammatory exudation passes into a state of cheesy degeneration, breaks down and involves the walls of some of the air vesicles, or else a portion of the lung becomes gangrenous and necrosed, and is cast off as a slough, leaving an unhealthy abscess. The former of these is, I think, the more common. This has occurred in this case, first in the upper lobe, in front, and then behind. Both of these were followed by copious hemorrhage. You will also find a very

grave confirmation of your fear if the condition show a tendency to spread to the surrounding part of the lung, that is to say, the nutrition of the rest of the lung becomes so involved that slight causes serve to set on foot attacks of croupous or catarrhal pneumonia.

So in this case, within sixty days I found an attack of catarrhal pneumonia developing in this upper lobe of the left side. This passed away to a great extent, but left behind it a state of irritation, so that this spot has from time to time been the seat of recurring catarrhs. If, then, a patient has had a croupous pneumonia, which instead of terminating in ten or fourteen days passes into a state of consolidation, caused either by the violence of the attack or a weakness of the constitution, there is reason to fear that that patient will pass into a state of croupous phthisis; and if, while the solidification continues, there are developed hectic fever, night sweats, progressive emaciation and loss of strength, with the physical signs previously referred to, our fears are confirmed and we recognize that destruction of tissue has set in and pulmonary phthisis resulted.

I need not tell you that such a person is very liable to get tubercle, and true tuberculosis to be established. In this patient, I do not think that tuberculosis has occurred. The subsequent attacks that I have mentioned were evidently of the nature of recurring catarrhal pneumonia. Now such is the history of most cases of croupous phthisis. At a certain time the change occurs; it may either be ushered in by hemorrhage, or it may take place slowly and only be recognized by the change in the physical signs.

Croupous phthisis is not nearly so common as the form we will next study, catarrhal phthisis. But before leaving this subject I wish to point out to you what I called your attention to last week, that is, the liability of phthisis to become associated with fibroid change, which may, if the patient live long enough, pass into fibroid thickening of the lung; the exuded matters pass into a state of cheesy degeneration and are expectorated, and a process of interstitial thickening takes place, leading to fibroid condensation of the lung. Where this occurs we find certain changes which will be instructive for us to examine at this point.

Perhaps the most marked and earliest evidence of this will be progressive contraction of the affected side, flattening of the thorax, as is shown by actual measurement. In this man, Taylor, the left side has, in a moderate degree, undergone this process. You notice that the percussion note is flat over the upper portion of the lower lobe of the lung in front, while over the lower part there is resonance, which is almost tympanitic in character, very large in volume. This is associated with scattered moist râles throughout the anterior part of the chest. The apex of the heart has been drawn upward and to the left, until it now pulsates in the fourth interspace, an inch outside of the line of the nipple. The stomach has been drawn up, by the contraction of the lung, until it occupies the position over which resonance was so marked.

I say, then, that the changes which will indicate the passage of the lung into fibroid phthisis will be, in the first place, contraction of the affected side, which is contracted in all of its diameters. This may go on to such a degree that, as I have seen, the heart may beat in the third interspace, or if the right side is affected, the apex may beat outside of the right nipple, or the contraction of the lung may be so great as to draw the trachea so to one side that it will enter the thorax at the inner third of the clavicle. If the other lung remains healthy it will undergo compensatory enlargement. Where there has been a croupous exudation we will find that the patient continues to expectorate cheesy matter. We also find that the evidences of a cavity continue, the râles, cavernous respiration and pectoriloquy persist. The fever usually becomes less marked, and if the patient has no marked tendency to the development of tubercle, he may last for many years, in a state of invalid health. We constantly have patients in this hospital suffering from fibroid phthisis, which has lasted for from five to twenty years. Last year I made an autopsy of one of these patients, who, to my own knowledge, had been in the hospital for fifteen years, in whom the right lung had contracted to a very small bulk, and all the other changes were well marked.

I shall return to this subject again; I have referred to it in this connection because it is principally in croupous phthisis that we have this fibroid change occurring. I shall leave the discussion of hemorrhage from the lung until we study catarrhal and tubercular phthisis, in which it is more apt to occur.

I have here a typical case of chronic catarrhal phthisis. I think that catarrhal phthisis is fifty times as common as croupous and tubercular phthisis put together. It is *the* form of phthisis which really gives to pulmonary phthisis its frightful importance. There is no part of the world which is exempt from the ravages of catarrhal phthisis. You will see certain places mentioned that are said to be entirely free from

phthisis, but investigation has always shown such statements to be false. There is no part of the human race among whom it does not exist; but just as population increases, and as the conditions favorable to its development arise, you will find that phthisis is almost as common in one place as another.

Next week I will spend the hour in the consideration of catarrhal phthisis.

COMMUNICATIONS.

ON THE NATURE AND TREATMENT OF BURNS AND FROSTBITE.

BY GEORGE HALSTED BOYLAND, M.A., M.D.,
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Wounds are either of chemical or mechanical origin. Extremes of heat and cold produce much the same effect upon the human body. Whether the chemical action be by means of the sun or by mechanical heat, such as fire or caustic acids, or again, by extreme cold, that part of the organism exposed suffers in the same manner, the same pathological process is gone through, and the character of the wound is essentially the same, though varying, as the case may be, in intensity and extent. By a brief study of these different methods of action of heat and cold their analogy will be made more apparent, and will be our guide as to the treatment of wounds caused by them. This treatment will be modified as circumstances may demand, but will always be conducted upon the same general principles.

The rays of the sun—for these claim attention as the first in the division mentioned—produce upon the parts exposed to them hyperæmia, followed closely by a superficial inflammation, erythema; if allowed to beat long and freely, blisters may make their appearance, or even a demolition of the superficial layers of the skin may be brought about; this, however, is rare, as the parts are usually withdrawn before it comes to that. Oftenest a burn of this kind in an erythematous form is found on the head, neck and shoulders of individuals when these parts, during the heat of summer, are exposed to the rays of the sun. Out of a given number of men thus exposed it will be noticed that but few are burned; the reason is, obviously, that their skins being more tender have consequently less power of resistance. The nervo-sanguineous temperament seems especially susceptible. When the cutis of the head alone is exposed to such a burn, the inflammation assumes a more aggravated type, becomes congestion of a marked character, attacks the galea aponeurotica, the meninges, and even the brain, producing that condition which has received the name of "sunstroke," in distinction from the milder form, "sunburn." As in sunburn there is visible upon the cutis necrosis of the epidermis, so in the mucous membrane of the lips, which appear tumefied and protruding, there is peeling and cracking into patches, of the epithelial layer. This is replaced but slowly, and at first by means of imperfectly formed cells; consequently, after such a burn a catarrhal condition can last for a long time. The best examples of this process are sometimes observed in the lips of those working in fields during the harvest time. A long-lasting and oft-repeated burning of this character produces a condition that may, not inappropriately, be termed chronic. The epidermis becomes thick, the cutis dry, losing its smooth, shining appearance, and assuming a darker hue. If the rays of the sun were the cause, the hue will be brown, evenly developed; but if this condition is brought about by artificial heat, the part of the skin affected will be unevenly browned or marbled, and characteristic gaps or crevices appear here and there, especially in the middle of such a burn.

In Germany are to be seen old people whose legs, from continually warming their feet on iron stoves, and old women whose thighs, from often sitting over braziers, present such cracked and wrinkled places.

Mechanical heat. The flame, for example, not only burns immediately the parts with which it comes in contact, but also inflames (lights) them to a greater or less degree in direct proportion to the severity of the burn. Although the burn may be quite insignificant, still the parts burn of themselves, however little. The action of the flame, then, is to perfectly dry the parts it touches to such an extent that they themselves are in condition to produce a new flame, although they contain more than 75 per cent. of water. Dupuytren supports this opinion, noting emphatically with what rapidity burning clothes cause burns to a considerable depth. So far as observation goes in such cases, it is not so much an active burning as a passive burned, or in some instances, almost charred condition that is to be handled. This burning (lighting) of the part affected is limited to the fat, and then only exceptionally, lasting but a moment, as any one may notice by the application of the white, glowing platinum wire in galvano-caustic operations. As the process known as flame consists

of gases heated to the highest degree, its working is similar to that of all gases heated to intensity, also to water which, through heat, has taken a gaseous form, especially when under powerful pressure—from machinery, for example—it has reached a higher temperature than the boiling point—steam. The elastic, fluid nature of steam causes it to penetrate into all openings, and therefore, scalding of the nostrils, mouth and larynx can take place in one coup, when patients are victims of boiler explosions, etc.

Dropable fluids do not work with such swiftness as steam or gases, but are apt to spread to a greater degree and cause very extended burns. If they soak the clothing their work lasts longer, although its power is constantly diminished. Temperature being equal, the intensity of the burn stands in direct proportion to the thickness of the liquid. Therefore, oil, lye, and other concentrated salt solutions produce more mischief than broth or milk, and these in their turn are more nocent than water. The more concentrated a salt solution is the more severe the burn. Therefore the bursting of retorts, etc., in chemical laboratories and manufactories, cause burns of very grave import. The thicker fluids are the more dangerous, on account of their greater heat capacity, and because they stick faster and evaporate but little, if at all. These differences are based upon the boiling point as regards oil and water. The different degrees of burns are as many as the many authors, on grounds more or less theoretical, choose to make them. Margolini and Ollivier distinguish two; Fabricius Hildanus, Boyer, three; Heister, Callisen, Bichat, four; Dupuytren, six. For practical purposes, however, the several stages of burn are best resolved into three; 1st. Inflammation without exudation under the epidermis. 2d. With exudation, blisters and pustules, followed by suppuration. 3d. Death of the parts, gangrene, formation of thick crust. The first two degrees only will claim especial attention, as being those in which the picture most resembles sunburn, burns by chemicals, and the first stages of frostbite. In all these burns there is a certain period during which the pathological course is markedly the same. That point passed, they seem to diverge somewhat, but never lose altogether their relationship. The burns that present themselves to be classed in the first degree are characterized by diffuse redness and noticeable swelling of the skin. This redness, like rose spots, disappears if the finger is passed over it and returns when it is taken off; there is a feeling of heat, burning pain. After a few days the heat and pain disappear and peeling of the epidermis begins. This does not take place if the redness and pain have only lasted a few hours. Fever only comes on when the burn is very extensive. In that case the tongue becomes red, there is great thirst, diarrhœa and vomiting, sleeplessness, delirium, convulsions, and even death, in this first degree of burn; death at once or after a few days, caused either by the intensity of the nervous affection or by congestion and inflammation of minor organs. The latter is especially the case when the burn attacks the head. Burns of this degree naturally imply that the agent, be it heat rays, or flame, or steam, or hot water, or hot solid body, or chemicals, did its work quickly, passing rapidly over the parts. When any one of these agents remains longer in contact with the human body, the more active working thus produced causes a burn of the second degree. With at the beginning violent, burning, later on stretching pains, blisters arise of different sizes and more or less numerous. This takes place generally immediately or within a very short time after the burn. The blisters are formed by an exudation of the cutis which pushes the epidermis up from it. These blisters not unfrequently burst of themselves, on account of the force of the exudation, but are more often torn or mashed accidentally; the inflamed dermis is then laid bare, the pain is increased, and suppuration more or less marked appears. The flow of pus ends with restitution of the epidermis, leaving no scar, or at most a wrinkled process like that before mentioned. Around the blisters is always found the first degree of burn, forming a red, swollen base, upon which they sit. The art of surgery is in this instance, at least, better than the *vis medicatrix naturæ;* for if these blisters be broken by a thoughtless movement or any unforeseen circumstance, the inflammation and attending suppuration are increased. On the other hand, removing their contents, which consist of a light-yellowish fluid, partaking of the nature of blood serum, is not followed by any such bad consequences. They should be emptied without disturbing them or exposing the dermis; best by a prick at the base with a needle.

A few years ago several cases of burn came under your author's observation, caused by the explosion of a barrel of petroleum in a cellar, bursting open the cellar door above and burning severely several men standing about, which, by the sudden and powerful action of the agent, placed the burns at once in a condition that can

be described as compound, a condition, moreover, differing from those met with in ordinary practice. The several degrees of burn exist, each complete in itself, and do not run into each other as the stages of other affections. These cases formed, apparently, an exception. The parts burned were the head, face, neck and arms. The hair was well singed; the epidermis peeled off—was rolled back in great layers, and the dermis presented a bright red, inflamed, and somewhat tumefied appearance, the numberless pores looking like the heads of so many small black pins. The first point that attracted notice in these cases was, that the peeling off of the epidermis, which usually takes place after several days, the heat and pain having almost disappeared entirely by that time in burns of the first degree, became the most prominent feature at the very beginning. There was, therefore, no possibility of blisters, which so strongly characterize burns of the second degree at the outset. But the skin was in condition to commence at once suppuration, a phenomenon which is very apt to occur as the last in burns of the second degree.

The pathological relations between burns of different degrees caused by mechanical heat and burns of different degrees caused by the rays of the sun, is by the foregoing made sufficiently evident. The same will be found to exist both in burns caused by chemicals and in frostbite. After a short consideration of these in their general relations to the subject in hand, the question of therapy will be introduced. The chemicals most commonly producing burns, are, briefly, oil of vitriol (sulphuric acid), nitric acid, concentrated lye, as is often used in the manufacture of soap, sometimes caustic potash, nitrate of silver, and quicklime. The burns in this category are accomplished with such power and rapidity as to assume at once the third degree, the disturbance generally limiting itself to the cutis; deeper burns of this kind only take place when a very large quantity of the agent is left to work for a long time on the parts. Oftener than such cases, are observed intentional ones, where, in suicidal attempts, the mouth, œsophagus and stomach are burned, for instance, by corrosive sublimate. When the given chemical, sulphuric acid, if you please, comes into contact with organic parts, these lose, at once, their proportion of water and are hypothetically changed in such a manner that the atoms of hydrogen and oxygen contained therein unite to form water, and as such go over into the sulphuric acid, leaving behind a burned, dark brown crust. The working of sulphuric acid is analogous, therefore, to ordinary burning, not only in its outward results but also in its physico-chemical process. Nitric acid leaves a yellow crust, which may serve as a differential diagnostic point; important, as it is the only one. The yellow crust caused by nitric acid, in distinction from the dark brown crust caused by sulphuric acid, has, doubtless, its explanation in the fact that nitric acid does not take water so actively from the tissues as sulphuric acid, and brings about, therefore, a less complete burn, but causes none the less a disturbance of equal gravity. Among the alkalies quicklime oftenest produces serious burns. Not unfrequently children are the victims, from playing about where lime is being burned or slacked.

Caustic potash burns with much greater force and to much greater depth. Brought into contact with the body, it draws from the tissues their proportion of water, with almost the same rapidity as sulphuric acid, causing formation of water out of the hydrogen and oxygen contained in them. It differs, however, from sulphuric acid principally in this respect, that it dissolves the fat as well as the albuminoid bodies, and then forms a burn crust of an unctious, half-liquid character, which nevertheless becomes, later, perfectly dry through vaporization and the influence of the carbonic acid in the air upon the potash contained in it. The circumstance that the combination of potash with the tissues is soluble, accounts for the fact that burns caused by caustic potash rapidly attain a considerable depth. And yet, as they get toward the depth they become less severe; for the solution of caustic potash is diluted more and more the further it goes, from taking up water out of the tissues themselves. Cold produces upon the tissues the same pathological results as heat, varying according to the degree and the length of time the parts are exposed. We distinguish, therefore, degrees of frostbite similar to those of burn. The most intense effect of cold upon the general system (frost asphyxia) is, doubtless, due to the same direct cause as sunstroke, namely, congestion of the brain. Ordinarily, frostbite may be divided into three degrees, in the first and mildest of which redness and swelling of the parts are noticed; this redness passing soon over into a violet or blue color, the swelling remaining, gives to the whole a livid and tumefied appearance. The pain is an intense burning—the same exactly as experienced in burns. This pain develops itself either at the moment the cold begins to work or makes itself felt first when the frozen part is warmed. Approach to the fire

increases it. If this mildest form of frostbite is not healed at once, it becomes chronic, commonly known then as chilblains (perniones), which get better or entirely disappear in summer, return in winter, and give especial pain with changes of temperature. The chronic stage is influenced by heat and cold in a manner directly opposite to that in which the acute stage is influenced by them. The main feature of frostbite of the second degree, like that of burns of the second degree, is the development of blisters. They rise at once, often; often only after several days. If the frozen part, however, be placed in quite moderate warmth the blisters rise almost immediately. The swelling is usually much greater than in the first degree, the pain somewhat different. Patients of this class will tell you that there is a sensation as of the skin being stretched, with painful "stickings" through it. The resemblance between burns and frostbite of this degree is, in some respects, very marked. As the course goes on and the so-called reaction sets in, one difference becomes quite apparent, which is, that the processes brought about by burning have an active and acute character; those, on the other hand, caused by freezing, are very torpid, and always have a certain tendency to gangrene. This fact will explain partially, at least, the contents of the blisters, which, unlike that of burns of the second degree, are never watery or even light yellowish, but rather of a bluish red, sometimes gray or gray blue, and always turbid. Only seldom is the epidermis under the blisters renewed. As a rule, they are burst or torn, and ulceration, which secretes ichor, follows. As chilblains were not improperly styled the chronic stage of frostbite of the first degree, so, with equal propriety, is the chronic stage of frostbite of the second degree marked by frost ulcers (*ulcera ex congelatione*) caused in the manner just mentioned, and which, usually, on the hand or foot, can, little by little, lay bare the bone. In the third degree of freezing, as in the third degree of burn, the most notable point is mortification—death of the parts. These are white or gray spots, which, as in the third degree of burn, are caused by the gangrenous disturbance of the papillæ of the skin. By the most intense working of cold the whole skin of the part becomes at once gangrenous, although at first pale and smooth; it then assumes a gray or blackish hue. And in this extreme degree of freezing the whole thickness of the limb dies.

A comparison between frostbite and burns of any kind reveals their general pathological relationship; there are certain differences which we have endeavored to point out; but they are differences as to physical detail, and do not interfere in the least with the broad morbid anatomical principle that obtains throughout all their courses. And thus a guide is furnished in

Treatment.—There is a punctum saliens in burns, if in any surgical disease, and that is inflammation. In their treatment, then, everything must be directed from an antiphlogistic basis.

The effect of heat upon the tissues being, as has been shown, to draw watery constituents from them, those means which would help to restore the tissues to their normal condition in this respect commend themselves to our use in the therapy of injuries due to causes such as have been mentioned. In the treatment of simple burns of the first and second degrees not accompanied by denudation of the epidermis, cold applications produce always excellent results. When practicable, plunge the part affected into a cold-water bath, having care to renew the water as frequently as necessary in order to keep it at the lowest possible degree. When immersion is impracticable, compresses wet with cold water may be used; these must be kept at the temperature at which they are first applied, by pouring cold water upon them at short intervals. The liquor plumbi subacetatis dilutus will be found very cooling and agreeable to the patient, but as far as therapeutic effect is concerned, cold water will accomplish as much. The law of "*similia similibus*" does not find an illustration in exposing the burn to intense heat by approaching it to the fire; the writer has found that to always increase the pain, and has never seen the slightest good effected by it. Ether, alcohol, cologne water, and, in fact, almost any volatile liquid which, by its vaporizing property, carries off more or less caloric will be found useful. Preferable, for me, however, are those topical emollient solutions which have a resolvent and mild repercussive action, such as oil of sweet almonds, olive oil, or linseed oil and lime water, camphor water and gum arabic. In the cases referred to in the first part of this article, resulting from the explosion of a barrel of coal oil, linseed oil and lime water were used in some, a solution of permanganate of potash and water in the others; all made good recoveries. The permanganate of potash answers well as a dressing in the muco-pus secretion of the lips sometimes met with in those working in the field in the summer, and exposed to constant sunburn, of which this catarrhal condition is the result. In the ordinary acute sunburn of the face, cold cream is all that is necessary. Sunstroke, be-

longing to inner medicine, will not be considered here. The application of leeches upon the parts inflamed, in burns of the second degree, is of service when the local irritation is very lively, tenacious and accompanied by much swelling. It has already been hinted that the blisters should be opened by a small puncture at the bottom, and so important is this that it will bear repeating. Care must be taken not to destroy the epidermis, but to let it collapse and form a covering for the dermis beneath. If, by chance, the epidermis should be destroyed, the cerates on soft linen find a place. When suppuration is fully established, antiseptic dressings commend themselves, with good reason; these should be continued until the phlogosis entirely subsides.

Bicarbonate of soda has, so far as personal experience goes, proved an excellent, cheap and quickly acting dressing in burns of the first and second degree, that is, for the general practitioner, in all ordinary burns. The method of sprinkling it on the wounded surface is less efficacious than that of applying it in solution, on fine, soft linen, thoroughly soaked, not wrung out, but gently laid over the entire wounded surface and covered with a dry piece of the same material, care being taken to avoid all pressure. This solution should be a saturated one, which will cause no difficulty to arise as regards too strong a growth of granulation; it is also valuable as a means of relieving the pain. If, when a patient is first seen, the constitutional symptoms are grave, and anything like stupor prevails, it is the duty of the surgeon to combat that first, by frictions of the healthy parts, sal volatile, slightly stimulating drinks and antispasmodics. In burns of the third degree, efforts to establish suppuration by emollient cataplasms, with opium if the pain is severe, will probably fail, and our only recourse will be to amputate the dead parts. In the treatment of burns caused by chemicals, such as sulphuric and nitric acids, our first care must be to neutralize their action by alkalies; salts of carbonic acid, chalk, soap and magnesia. They must afterward be treated as other burns. The treatment of those burns caused by alkalies, caustic potash and lye, must be conducted in like manner, with this difference, however, that the neutralization is, in this case, to be accomplished by acids, such as are harmless and can be quickly got at—vinegar, for instance.

Frostbite. Frostbite demands, imperatively, treatment by cold. In all degrees of frostbite frictions should be made at once, with ice and snow. In cases of frost asphyxia, the whole body, naked and in a cold room, must be rubbed with ice and snow, then placed in a very cold bath, the rubbing being continued. If life begins to return, the body can only gradually be brought into a higher temperature. Of course, when necessary, artificial respiration will be kept up, best on Byrd's plan (described in *The Practitioner*, for January, 1880); electricity applied to the diaphragm will aid materially. Frozen extremities must be treated in the same manner; if not successful, pushing off the gangrenous crust should be induced by stimulating cataplasms. If the gangrene has embraced the entire thickness of the limb or extremity, amputation is the only course left, but should never be undertaken until the demarcation line between the dead and living tissues is unmistakable.

Chilblains and frost ulcers are quite curable, demanding a long continued excitant treatment, owing to their torpid character. They return frequently, however, and are often stubborn. Rubbings with ice and snow come first in the long list of remedies; then follow bathing with a strong solution of chloride of lime, painting with iodine, with mineral acids, petroleum, tincture opium or cantharides, myrrh, camphor, balsam of Peru, and so on. There are other and different applications, but the principle is the same. And this brings us back to the point from which we started. But let us remember, in the treatment of all wounds, Ambrose Paré's words: "I dressed the wounds, God healed them."

Hospital Reports.

JEFFERSON MEDICAL COLLEGE HOSPITAL.

CLINICAL LECTURE BY W. W. VAN VALZAH, M.D.

Reported by CHARLES R. CRANDALL, M.D.

Epilepsy.

GENTLEMEN—The first case I shall show you to day will illustrate one of the forms of epilepsy, and is also one that brings out a valuable point in therapeutics. This young man came to the hospital and complained of having fits from time to time. He tells us that he began to have them about three years ago, while attending school. At that time they came at long intervals, as, for instance, one in every three or four months. They generally occurred after prolonged application to study, and especially during a period of overwork, when striving to insure advancement into higher classes. He says, too, that they come on either in the day or night, and that the attacks are characterized, so his friends have told him, by sudden loss of consciousness, falling down, twitchings of the muscles, all of which is followed by prolonged sleep. At first he had only one in three or four

months, but the intervals between paroxysms have gradually shortened, until he now has three or four a week. I have questioned him quite closely, in order to get at the cause of the attacks, but cannot satisfy myself entirely. He says, however, that he has noticed that the attacks are most likely to occur when his stomach is out of order, and his system tired and exhausted, from prolonged mental application. He denies ever practicing self-abuse, or having spells of mental excitement, or having received any blow or injury on the head.

I am also unable to obtain any trace of hereditary tendency which would predispose him to the disease. The case appears to be one of the idiopathic group, where it is impossible to find any well-established cause.

In looking at this patient you see he is not a vigorous-looking youth. His frame is small, his flesh spare, his features angular and his face pale. On inquiring into his general health, it appears to be in fair condition, and he informs me that his appetite is good and his bowels regular. The intellect does not seem to be impaired, nor does it always suffer in cases of epilepsy. History gives us notable instances of great men who suffered from epileptic attacks. You remember that I gave you the theories as to the causes of epilepsy in my last clinic, as well as the modern views regarding the portion of the brain involved. I then said to you that modern authorities accept the view that the disease results from a disturbance of the pons varolii and medulla oblongata. That disturbance may be due to a change in the structure in or about those parts, or to irritation reflected there from other portions of the body. In the case of our patient, I think that the disease was induced by excessive mental application, which gave rise to irritation and functional disturbance of those important centres.

Treatment.—What I especially desired to call your attention to was a peculiarity of the action of our usual remedy in cases of this kind. He has been receiving treatment elsewhere for weeks, and was placed, at first, on the bromide of potassium. He took from ten to thirty grains three times daily, without being at all benefited. Clinical experience has taught us that cases in which the bromides by themselves have failed often respond well to treatment when the iodides and bromides are combined. We resorted to that combination, and this young man has been taking as follows:—

℞.	Pot. bromide,	gr. x	
	Pot. iodide,	grs. viij	
	Infusum gent.,	℥ ij.	M.

Three times daily.

To-day he reports himself much better. I added the bitter in this prescription in order to keep the stomach in as good condition as possible. We also advised in this case a plain, nutritious diet; and he tells you that he avoids rich food, living chiefly on milk, oatmeal and other light foods. He has been especially requested to eat a light supper, which he says he does.

Note.—This party has returned every week for four weeks, and reports that he has not had an attack.

Aneurism.

The case which I now present to you is one of profound interest. This man's name is Joseph L., aged thirty-eight years. He is a sailor by occupation, and most of his voyages have taken him into the Southern States and the West Indies. He says he always had good health up to eight or nine years ago, when he had bilious remittent fever off and on for three or four years. Subsequent to that time, he says, he has had bone fever, swamp fever, chills and fever, and rheumatism. These fevers he speaks of are all local names for different forms of malarial attacks. During the year 1875 he had his first attack of rheumatism, and since then has had several more. These attacks were severe, giving rise to high fever and sweats, coated tongue, and painful swelling of the large joints. I inquire as to specific contamination, and find that he had a primary sore twenty years ago. According to what he says there was no secondary involvement, as is shown by buboes, enlargement of other glands, eruption on the skin or falling out of the hair. As confirmatory of his statements I am unable to find any traces of that disease about his person. He has been in good health up to about two months, when he took cold, and had some pain in his lungs. This state of things lasted for about a month, when he noticed a throbbing in the upper portion of the anterior side of the right lung. I now have him remove his clothing, so as to expose his chest, and ask him to tell us more about his trouble. He says he feels this swelling, is conscious of a throbbing in it, and has some pain in the right lung and in the right arm, whether he attempts to raise it or not.

Physical Examination.—Let us now proceed to examine this man according to the usual method. As I inspect his chest I see on the upper portion of the anterior surface of the right side a peculiar bulging. As I look at the bulging point from a side view I can see it beat or throb. Having thus inspected his chest, I now resort to palpation. I place my hand where the heart should be and find it in its normal position, so we must at once exclude the idea of a displaced heart. Placing my hand over this bulging portion, I notice a peculiar heaving or expansive sensation, very different, indeed, from the impulse felt over the heart. Furthermore, this sense of expansion covers a larger space than the impulse given by the heart, and besides, I fail to discover anything like a thrill. Having gained all I can from palpation, I percuss this portion of the chest, and try to trace the outlines of the bulging. I find an area of dullness of about three or four inches in diameter, and it is situated about an inch to the right and a little below the junction of the clavicle and sternum. It extends from the second interspace above to the fourth interspace below. As you hear when I percuss, this area is almost flat when compared with the normal percussion note of the lung.

I now auscult the chest, and find the murmurs normal on both sides. The patient complains of some cough, but that is doubtless due to slight irritation produced by pressure, and not to bron-

chitis or any disease of the lungs, as I do not detect any abnormal sounds.

Listening to the heart, I find the sounds normal, but the action is a little rapid and irregular. There is an absence of the heaving and expansive sensation, such as is found in the region of the tumor. The heaving of the tumor corresponds in point of time with the action of the heart, but it appears to be more powerful and covers more surface. I am unable to discover any murmurs or blowing sound in the tumor. Placing my fingers on the pulses, I find them nearly normal, which indicates that the tumor does not, as yet, press heavily enough on the vessels to impede circulation. The man says that he has not experienced any difficulty either in swallowing or in the use of his voice. The pain of which he complains in the right shoulder and arm is doubtless due to pressure on filaments of the brachial plexus. Examining the pupils, I find them unchanged.

Before entering into a discussion of the diagnosis, I wish to see if any member of the class has an opinion to offer as to what we are dealing with. I hear some one say, "aneurism of the arch of the aorta." The opinion is a correct one, and I will endeavor to point out why it is so. In the first place, this enlargement has developed rather rapidly, which is characteristic of aneurismal growths. The fact that I fail to get any thrill or murmur is no argument against our diagnosis, for it is not uncommon to find aneurisms of the thorax without either. Again, it is possible to have an aneurism in this location without having any marked signs, such as coughing, difficulty in swallowing, shortness of breath, etc., because the sac may point forward, and may not be large enough during the first stages to give rise to much disturbance. You must bear in mind that in all probability this aneurism has existed only a few weeks, and therefore it is too soon to look for marked physiological disturbance.

Where shall we locate the aneurism? I am confident that it is in the ascending portion of the arch. First, because it is on the right side of the sternum, and below the second intercostal space. If the aneurism was in the transverse portion it would have been in the median line. If it was in the descending portion it would have been on the left side. Lastly, if it was in the innominate artery it would have been above the second intercostal space, and well under the clavicle.

Again, it is well established that, as a rule, the larger portion of aneurisms which come in this vicinity have their origin in the ascending portion of the arch of the aorta. This fact alone would give a strong probability to the accuracy of our diagnosis.

The question may have arisen in your minds, is this not some other kind of a tumor? I think it is not a solid or mediastinal tumor, for the following reasons: If this was a tumor of that nature we would not have the heaving and expansile pulsation so pronounced in this case. It is true a tumor might pulsate, but would do so only in cases of excessive vascularity and soft consistency, or in case it overlaid a large vessel. It is hardly possible that a tumor could have grown so rapidly, and have become sufficiently vascular to cause the marked heaving and throbbing we have here. Furthermore, tumors in this locality are almost invariably cancerous. They are of slow growth and painful; they may also present the cancerous cachexia. They cause lymphatic enlargement and marked involvement of the constitution. It is evident to you all that we have no such history or symptoms in this case.

Having finished our diagnosis, I wish to say a word regarding the varieties of aneurisms. There are three chief varieties, diffused, fusiform and sacculated. Aneurisms are diffused or false when all the coats of the vessels are ruptured and the blood diffuses into the adjacent tissues. The fusiform variety is where the vessel takes the shape of a spindle. An aneurism is sacculated when one or more coats of an artery give way at a certain point, allowing the pressure of the blood to cause the remaining coat or coats to pouch or bag in a certain direction. It is safe to say that the aneurism in this instance is sacculated, for that is the usual variety or form occurring in this locality.

Now the question arises, what should cause this aneurism? I may say, in brief, that aneurisms usually result from straining, atheromatous degeneration, rheumatism, gout and syphilis. Although our patient's work subjected him to heavy lifting at times, he does not remember having felt any strain, nor does he remember that this tumor followed soon after specially hard work. We cannot attribute it to atheromatous degeneration, because the man is too young, and the superficial arteries do not show the usual evidence of such structural changes. Neither can we assign it to gout, for there are no symptoms of that disease. While there is a remote history of syphilis, which would suggest that disease being the predisposing cause, there is no evidence of either secondary or tertiary involvement. Hence we are narrowed down to the belief that this aneurism is due to certain changes having taken place in the coats of the artery, as a result of frequent and severe attacks of rheumatism. It is possible that the repeated attacks of malaria increased these degenerative changes.

In the treatment of this case, the chief indication is to secure, if possible, coagulation. In order to accomplish this, the first thing to do is to insist upon absolute rest. This man should be kept in bed, flat on his back, not allowed to walk about, much less to lift or strain. It stands to reason that not a thing can be accomplished if the heart is kept over-acting. The rapid current of blood will not permit coagulation, which is the great desideratum; in fact, it would not only prevent coagulation, but the increased pressure would cause the sac to enlarge.

In the sacculated variety coagulation often takes place quite readily, far more so than in either of the other varieties; hence, we have reason for hoping to accomplish something by our treatment. The remedial agents we shall employ in this case are ice and the iodide of potassium. It has been found that ice, applied over the aneurism and kept on as long as the patient can bear, seems to favor coagulation. In regard to iodide of potassium in this disease, it

often does much good. Roberts and Balfour, of England, seem to have used it to great advantage in a series of cases. It must be given in large doses. This man is now taking twenty-five grains three times daily. His stomach bears up well under it, and we shall increase the amount to thirty grains three times daily. The patient says for himself that the bulging and pulsation have decreased under the treatment.

Chronic Phthisis.

I am enabled with this patient to demonstrate to you the various methods for making physical examination of the chest, as well as to show you a case of considerable interest. This man's name is John F., aged forty-one; he is a huckster by occupation. Fifteen years ago he was an orderly in the army, and his duties exposed him to hardship and bad weather. At that time he contracted a slight, dry cough, which has continued ever since. During the sixteen years mentioned his general health has been fair, his appetite good, and he has not suffered from hemorrhages from the lungs. Within a few months, however, he has noticed a decrease of strength and an increase of cough and expectoration. I ask him the nature of the matter expectorated, and he replies that it is thick, frothy, and floats in the vessel. As we look at this man's face we notice the general expression of the countenance to be bad. It is a countenance at once suggestive of disease. There is every evidence of anæmia, shown by the general pallor of face, lips and conjunctiva. The tongue has a tolerable good appearance and he assures me that his appetite and digestion are good. Looking at the man as he stands before you, you notice that his form above his waist seems to lean to the right side. He now removes his shirt, so as to expose his whole chest. You observe at a glance that he does lean to the right side, and that his right infra-clavicular region is markedly contracted. At the same time you notice the bulging of the left side. His usual breathing is weak on both sides, but it is evident that the expansion of the lung is much weaker on the right side. Placing my hands, one over either lung, I tell him to take a deep breath; as he does so, you notice how my hand rises on the left side while it scarcely moves on the right. I now ask him to count one, two, three, and I find the trembling is pronounced, compared with the left side. Having learned so much from inspection and palpation, let me now percuss him. At once I disclose marked dullness in the region of the right anterior apex. This dullness diminishes as I pass down toward the nipple. On the left side of the chest percussion resonance is normal. Over the right lung, posteriorly, there is some dullness at the right apex, but less marked than anteriorly. I now auscult the chest and ask the patient to breathe a little stronger than usual, but in a regular manner. It often happens that a patient breathes too strong, and breaks the rhythm, and changes the character of the breathing in other ways. I find feeble breathing on both sides, and as he now breathes more naturally, I can hardly hear the normal murmurs. There are no râles to be heard, but I discover an occasional harsh click and prolonged expiration. Placing my ear over the left lung, I hear marked supplemental breathing, which is due to the impaired condition of the right lung. Voice auscultation is markedly increased on the right side, and as I listen posteriorly above and below the spine of the scapula, I hear distinct cavernous breathing. Reverting again to percussion on the right side, I fail to get the "cracked pot" sound which is usually heard when there are cavities situated superficially and connected with bronchial tubes. I think I fail to get the sound, owing to the deep situation of the cavity. As a rule, cavities are more discernible on the anterior surface, and are superficial, but in this case I should say that the cavity is situated deeply within the structure of the lung.

The temperature of this man is somewhat above normal. The temperature is usually raised, in this disease, and it is markedly influenced by the rate of progress. So long as the temperature remains about normal the disease is stayed, from some cause. On the other hand, when the temperature ranges 102–103 it indicates rapid progress. Placing my hand on the pulse I recognize that it is accelerated, which is what we might expect in a case like this. The pulse is often accelerated in this disease, and when it is rapid, associated with the other symptoms, it aids materially in making a diagnosis.

You, doubtless, all anticipate me when I pronounce this to be a well-marked case of phthisis. I have not only been able to demonstrate to you the methods of chest examination, but besides, to present many of the characteristic features of the advanced stage of phthisis. In going over this case we have found successively a history of cough, failing strength, general anæmia, contracted chest, cavernous breathing, dullness at the apex, increased vocal fremitus, increased voice auscultation and prolonged expiration. The diagnostic significance of such a group of symptoms and physical signs is serious indeed, pointing, as in this case, to the ravages of a resistless disease.

Now, the practical question arises, What can we do for this man? Let me say in the first place that it is always best not to medicate too much. If an attempt is made to treat all the indications at once, there is danger of breaking down the digestion, and doing more harm than good. In this man's case his appetite and digestion are now good, and it is of utmost importance to him that they should so continue. Therefore, we will not give him anything with a view of regulating his circulation or controlling his cough, neither of which is excessive or annoying. We will, however, endeavor to keep down his temperature, and do all we can to build him up and support his system against the inroads of the disease. Hence, I shall advise him to live generously, on such nourishing food as milk, eggs, beef, bread and butter, etc. He is to keep himself clothed with woolens, and is to avoid exposure to bad weather. He should make it a rule to be out of doors, in the sun and air, all he can during pleasant weather. The skin should be kept clean and healthy, by frequent baths. As regards supporting remedies, I shall advise that he be given nine

grains of quinine and ten drops of the tincture of iron three times daily. In addition, he should have about half an ounce of good whiskey with his midday meal.

EDITORIAL DEPARTMENT.

PERISCOPE.

Ligature of the Middle Meningeal Artery in Compound Fracture of the Lateral Parts of the Skull.

In commenting on a successful case of the above description, published by Prof. Hueter, M. Marchant states, in *La France Médicale*, Nos. 1 and 2, 1880, that an examination of the pathological and clinical facts of all the recorded cases has led him to the following conclusions:—

1st. Ruptures of the middle meningeal artery, in direct compound fractures of the lateral portions of the skull, do not present the same features in children, adults, and aged persons.

2d. In children, by reason of the intimate adhesion of the dura mater to the bone, the blood has little tendency to be effused into the interior of the cranium. The effusion is *rather extra-cranial*. This external hemorrhage may be met by ligature of the middle meningeal artery, an operation which is rendered comparatively easy by the normal position of the artery.

3d. In adults the condition is quite the reverse. That there is almost always separation of the dura mater, is proved by a great number of facts. The blood is effused in a space so fixed in size as to merit the name of the "separable zone of the dura mater." Intra-cranial hemorrhage is the rule; extra-cranial is the exception.

If, suspecting intra-cranial hemorrhage from the existence of compression, or because there is external hemorrhage, the surgeon wishes to interfere, in proceeding to tie the middle meningeal artery he will meet with almost insuperable obstacles. These are: 1. The size of the clot to be displaced. 2. The position of the artery—drawn back some 4 or 5 ctm. toward the median plane. 3. The difficulty of recognizing, in most cases, the point where the artery has been wounded; and 4. The difficulty of dealing with an artery which offers little hold to the ligature.

Treatment of Ringworm.

Mr. Wyndham Cottle, Senior Assistant Surgeon to the Hospital for Diseases of the Skin, says, in a communication on the above subject, to the *British Medical Journal*, May 29th, 1880—

After making trial of various agents, I have obtained the best results by painting the most obstinately affected portions of the scalp with linimentum crotonis, and directing the subsequent frequent use of an ointment or lotion of salicylic acid. One application of the croton oil usually suffices to produce a copious pustular rash over the parts with which it is brought in contact. If it fail to do so, the application should be repeated. An ointment of ten to forty grains of salicylic acid to the ounce of the base selected should then be rubbed over the scalp twice or thrice daily. The strength, frequency, and vigor of the application should be proportioned to the inflammatory effect that results. All crusts, scales, and diseased hairs, should be removed as speedily as possible. Though this mode of treatment is neither suitable to every case, nor universally successful, it possesses some advantages. 1. The croton oil liniment gives rise to no pain at the time of its application, while the consequent suppuration is not, in most cases, more irksome to the patient than the prolonged and acute pain that attends the use of the usual caustics. 2. Permanent loss of hair does not result. 3. The treatment is easy to carry out. 4. Many intractable cases rapidly mend when so dealt with. 5. The agents employed are not poisonous.

I usually prescribe salicylic acid as an ointment—from ten to forty grains of the acid to an ounce of lard, vaseline, etc.—and I often find advantage from combining it with other drugs, as carbolic acid or oil of cade, etc. If it be desired to increase its irritating properties, the addition of a few grains of perbromide of mercury or antimony chloride to the ointment will be effectual. Again, if an eczematous state of skin have supervened, some of the more soothing of the salts of zinc or mercury may be advantageously ordered with the salicylic acid. If a liquid form is preferred, from twenty to forty grains of salicylic acid may be dissolved in an ounce of alcohol, and the affected parts painted with the solution two or three times a day. Such solutions often set up much skin irritation.

The following points seem, then, to be worthy of consideration in the treatment of ringworm.

1. The risk of the extension of the disease should be avoided.

2. Suitable constitutional treatment should be adopted.

4. Recent cases in healthy individuals may be very well dealt with by almost any of the usual remedies.

4. In chronic and obstinate cases, the production of suppuration by croton-oil liniment, followed by the application of salicylic acid, either alone or in combination (or of any agents whose action is similar), offers a not unpromising means of eradicating the disease.

Case of Sclerema in an Adult.

The *Lyon Médicale* contains a report of the following interesting case:—

M. X., aged thirty-three, consulted M. Aubert, in March, 1877, for a cutaneous affection which had first appeared in August, 1876. Father and mother have the same disease. Of three brothers, one died of pneumonia, one of chronic laryngitis,

and one is alive and well. Patient looks healthy. He relates that in August, 1876, he was attacked by weakness, uneasiness and loss of appetite. He felt, at the same time, his body, and especially his hands, very hot, and often plunged them in cold water; the skin of the legs also felt rigid and tense when he stooped. In November following the skin on the backs of his hands and wrists became rigid, this condition afterward extending to forearms and arms. When M. Aubert first saw him, the skin of the arms, forearms and backs of the hands was hard, white and rigid, reminding one of a cast of the fingers in white wax, preserved and a little hard. There was no perspiration in the affected parts. The backs of the feet, the legs, and some spaces on the thighs presented an analogous condition. This caused a painful feeling of tension, and a little difficulty in walking, and rendered complete flexion of the fingers impossible. The treatment consisted in vapor baths, the affected parts to be covered during the night with india-rubber cloths; Vals water to be taken internally. The patient gradually improved. A month later shampooing and inunction with oil were practiced, and in a few months the cure was complete. M. Aubert remarks that the pathology of sclerema in the adult is completely unknown; that it is a special disease, and must not be confounded with sclerosis of the skin, which is simply an anatomical lesion, and may occur in many different affections. The treatment should be directed to restoring and maintaining the secreting power of the skin, and after recovery the patient should be warmly clothed.

Reviews and Book Notices.

NOTES ON CURRENT MEDICAL LITERATURE.

——A reprint from the *Therapeutic Gazette*, April 15th, 1880, contains an article on Fluid Extracts, as proposed for the coming Pharmacopœia.

——The *Atlantic Monthly* for July contains, besides continuations of "The Stillwater Tragedy," by Thomas Baily Aldrich, and "The Undiscovered Country," by W. D. Howells, "The Saffron Fly," a legend of Brittany, by Rose Terry Cooke; "Incidents of the Capture of Richmond," by George F. Shepley; "Brown's Retreat," by Anna Eichberg; "Passing," a poem, by Alice Williams Brotherton; "Wintering on Ætna," by S. P. Langley; "Unfulfillment," a poem, by Frances Louisa Bushnell; "A French Comic Dramatist," by J. Brander Matthews; "Confederation in Canada," by Frederick G. Mather; "Reminiscences of Washington," the "Van Buren Administration, 1837 to 1841;" with numerous other articles of interest.

——*Lippincott's Magazine* for July contains two illustrated articles of a light and entertaining character—"The Palace of the Leatherstonepaughs," which is a humorous sketch of artist life in Rome, and "Paradise Plantation," which is a description, in a similar vein, of amateur farming in Florida. Dr. S. Weir Mitchell concludes the interesting account of his tour "Through the Yellowstone Park," and some peculiar phases of Western life are described by Louise Coffin Jones, in a paper entitled, "On the Skunk River." "A Forgotten American Worthy," by Charles Burr Todd, recounts the remarkable career of Joel Barlow. "On Spelling Reform" presents some strong arguments against the proposed changes in English orthography. "An Open Look at the Political Situation" criticises the course of the "Independents," and discusses the chances of Civil Service Reform. "Pipistrello," by "Ouida," is a picturesque and powerfully written story of Italian life. "Adam and Eve" and "Studies in the Slums" are continued. The poetry is by Emma Lazarus, J. B. Tabb, and H. L. Leonard, and the "Monthly Gossip" and "Literature of the Day" are as good and varied as usual. This number begins the twenty-sixth volume.

BOOK NOTICES.

A Treatise on Oral Deformities as a Branch of Mechanical Surgery. By Norman W. Kingsley, M.D.S., D.D.S., late Dean of the New York College of Dentistry, and Professor of Dental Art and Mechanism, etc. With over 350 illustrations. New York, D. Appleton & Co., 1, 3 and 5 Bond street, 1880. One volume. 8vo, pp. 541. Price, cloth $5.00; sheep $6.00.

This work is divided into five parts. Part I treats of irregularities of the teeth. After giving a description of the normal type of jaws, the author proceeds to a definition of abnormality and its various causes, whether hereditary or acquired, the correlation of irregularities of teeth to idiocy, entering fully into a discussion of the various methods of treatment, with cases from practice. The subject of Part II is Palatine Defects and their Treatments. In Part III he takes up Maxillary Fractures, their location, diagnosis and treatment. Part IV is on the Mechanism of Speech, and Part V treats of the Æsthetics of Dentistry. Each subject is handled with thoroughness and scientific skill, and while we regard the book as indispensable to those practicing dental surgery, it will be found useful to physicians in general practice as well, and is well worthy of a careful perusal.

THE

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D. G. BRINTON, M.D., EDITOR.

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THE MEDICAL ASPECTS OF EDUCATION.

I. Ante-natal or Race Education.

The subject of Education is one of such primary importance, and one in many respects so intimately connected with questions in medicine, hygiene, physiology and sanitary science, that we shall devote to the medical aspects of it several brief articles. It is our desire rather to present the problems which it offers for the consideration of the physician, than to give any complete analysis of it; rather to suggest topics for thought and research, than to set forth the results of investigations hitherto made.

Education, in its broadest sense, means the improvement of the race of man, in both sexes, and all varieties and individuals. Looking more particularly at civilized man, under the conditions most familiar to us, we can conveniently divide the process of education into four separate stadia, as follows:—

1. Ante-natal or Race Education.
2. Household Education.
3. Scholastic Education.
4. Professional or Business Education.

At present we shall confine ourselves to the first of these.

The idea of education as a deliberate process, beginning before birth, or even before conception, though not wholly of modern origin, never took correct form previous to the recent studies in heredity, atavism, maternal impressions, inherited memory and race deterioration. The names of Laycock and Darwin, among English writers, are most deserving of mention in this connection. The former showed by many examples that the faculties of children can be influenced to advantage or disadvantage by the habits of their parents. Mr. Samuel Royce, in a recent work ("Race Education," 1878), has also emphasized the general facts of this nature, and has put in an earnest plea for the study of education in this sense of the word. Like several other observers, Dr. Nathan Allen and Dr. C. G. R. Moutoux, for instance, he believes that there is strong reason to believe that there is apparent a physical deterioration of the race, at least as it appears in this country. The subject is one for and against which much could be said; but the dangers which Dr. Moutoux points out are certainly real, and should attract the attention of sanitarians. They are, briefly, as follows:—

1. The popular aversion (now-a-days) to physical exercise.
2. The overstrain of mental labor of young children.
3. The too artificial and unwholesome way of feeding.
4. The too early use and abuse of the generative organs.
5. The often unnecessary medication in infants and children.

The means of rectifying these errors may fall a great deal to the lot of parents, nurses and teachers, yet the physician, being considered an expert to some extent, certainly will have to do his share in urging the importance of the subject. Upon him alone devolves the duty of investigating the causes and suggesting the proper remedy.

He, however, has omitted one, which has a claim to be considered the most important of all, and that is, ill-assorted marriages. This point has recently received special notice at the hands of Dr. Bourgeois, of Paris, a member of the Société de Médecine Publique. He very justly

thinks that such marriages are productive of great harm to the offspring, and he has not hesitated to bring forward a proposition that the State should take measures to prevent the marriage of individuals suffering from certain hereditary diseases which are most generally transmitted to the offspring. According to Dr. Bourgeois, by the prohibition of such ill-advised alliances, phthisis, epilepsy and mental disease would soon be exterminated. The commission appointed to examine and report upon the proposition has, as might be anticipated, concluded against it. In the French law there is only one case in which an individual is incapable of contracting marriage, and that is in the case of an *interdit*—that is, a person interdicted, on account of mental incapacity, from the exercise of civil rights, and this is on legal, rather than on hygienic grounds. For a marriage to be legal consent must be given, and as an *interdit* cannot legally give a valid consent, he cannot contract marriage. Dr. Bourgeois would have every candidate for wedlock submit to medical examination, and would allow marriage to those only who had obtained a medical license. He also thinks that a difference of twenty-five years between the ages of the two parties should constitute an absolute bar to their union when one of them is over sixty, so that a man of that age would be forbidden to marry a woman of four-and-thirty.

The growing importance of the subject is further illustrated by the fact that this summer the Sanitary Institute of Great Britain offers a prize of one thousand dollars for the best essay on "The Cause of Hereditary Tendencies in Health and Disease."

The education of each parent, therefore, and the physical and mental relationship of the two parents, become factors of the first moment in the education of the race.

But the ante-natal education does not cease here. There is a stadium of it singularly neglected now-a-days, and that is the education of the child in the womb. After long discussion, it is now definitely settled that maternal impressions exert the most profound influence on the unborn child, both bodily and mentally. Hitherto the efforts of physicians have been chiefly directed to showing this in its dark side. How monsters, and deformities, and ugly blemishes may be traced to mental impressions during pregnancy, has been amply shown; but how virtues and beauties may be just as certainly obtained has received the minimum of attention. Yet there is no reason why the same potent influence may not be directed for good as for harm, for the benefit as for the disadvantage, of the future individual.

A certain amount of evidence to this effect is accessible, but the subject is worthy much more attention than it has received. The hygiene of the puerperal state is at present mainly a negative one. Can we not have positive measures taken to influence the fœtus in the direction it should go? It appears to us there is large scope here for the professional philanthropist.

Notes and Comments.

Tuberculous Inflammation of the Internal Coat of Vessels in Tubercular Meningitis.

Besides the anatomical changes that take place in the lymphatic spaces and outer coat of the vessels of the pia mater, M. Cornil has demonstrated that the inner coat is the seat of a special pathological process. According to his observations, which have been published in *La Revue Médicale*, it is thickened by the formation of several layers of cells, which, beginning next the middle coat and going toward the endothelium, present the following form and disposition: 1. Small round cells enclosing small round nuclei. 2. Closely adjoining these are elongated cells of a cylindrical or prismatic shape, and terminated by a filiform extremity which is inserted in the elastic coat. 3. Cells of a large size (giant cells), often flattened out, of the shape of irregular plates, containing two or three ovoid nuclei. 4. Within the zone of giant cells there exist, also, prismatic cells or small round cells, irregularly placed, and forming a layer immediately subjacent to the endothelium. Thus the cells of the new formation in the inflamed lining membrane form, says M. Cornil, a true evolution, like that of epithelium, ending with giant cells as the highest of the series. The prismatic cells are the same as are found in ordinary inflammation, subacute or

chronic, of the internal coat and in syphilitic inflammation of the arteries. This tubercular inflammation ending in giant cells, is spread over the surface of the interior of the vessel, and does not affect the form of the limited granulations. The combination of the lesions of the connective tissue of the meninges, of the perivascular spaces, and of the vascular coats, constitute the little nodules or the larger tuberculous masses. In several cases of meningitis where he had carefully searched for giant cells, so common in tubercle of other organs, he found them only in the altered inner coat of the vessels. These tuberculous alterations in the inner coat of the vessels strongly support the doctrine of the infection of tubercle, as the blood itself could thus be a carrier of the infective matter.

The Diagnosis of Rotheln.

W. Gilchrist Burnie, M.R.C.S., states, in the *British Medical Journal*, June 5th, 1880, that a diagnosis of rötheln may be made from measles, by observing the following points:—1. The rash is more vivid and in smaller patches, the patches not being markedly crescentic. 2. There is no coryza nor cough. 3. There are sore throat and strawberry tongue. From scarlet fever the points of diagnosis are these:—1. The rash is in patches and less red. 2. Neither tonsils nor cervical glands are much affected. 3. The temperature rarely exceeds 102° Fahr. 4. The illness is of short duration (rarely lasting a week) and mild. 5. The patient does not affect others with scarlet fever; and albumen is absent from the urine. Desquamation occurs about the fifth or sixth day, and is sometimes profuse. In conclusion, I would say that I cannot but think it would be a great benefit to medicine if rötheln were, once and for all, recognized as quite a distinct disease.

Uræmia Treated by Pilocarpin.

We learn from *L'Union Médicale* that at the Société de Biologie, M. Leven communicated the case of a young girl attacked by parenchymatous nephritis induced by a chill, accompanied by œdema of the lower limbs, then by suppression of urine, and finally, on the eleventh day of the disease, by uræmia of a convulsive and comatose form. After the first convulsive attack a hypodermic injection of two centigrammes of nitrate of pilocarpine was given; this produced neither sweating nor salivation. A second injection had equally negative results, but shortly after the third injection there was a redness to the extent of two centimetres around the puncture, then sweating over the body, beginning on the forehead, abundant salivation trickling out from the mouth; after several attempts, vomiting of a yellowish fluid. Half an hour after the injection the patient was passing water under her. The vomited fluid contained traces of ammonia. In the evening there was a fourth injection, followed by sweating and sialorrhœa. 60 grams of saliva contained traces of urea and .098 gram of albumen. 350 grams of urine contained .832 per cent. of albumen and 2.562 per cent. of urea. On the second day of this treatment (the twelfth of the disease) the patient had recovered her senses, and from this time the amelioration progressed; a fortnight afterward the urine contained no albumen.

Dr. C. E. Quire's Nasal and Ear Curette.

The accompanying cut represents a nasal and ear curette, devised by C. E. Quire, M.D., of Lynnville, Iowa.

The instrument is introduced with short bar straight, and after its introduction beyond the foreign body to be removed, the short bar is brought to the angle required, by the action of the index finger and thumb on the spring, as indicated in the diagram. The instrument is very delicate and well finished (nickel plated), and when we consider the difficulty often attending the removal of foreign bodies from the nasal and aural cavities there is no doubt but that this will be a useful addition to the surgeon's armamentarium.

The Atmosphere of Leadville, 10,500 Feet Above the Level of the Sea.

It has been asserted that the atmosphere of Leadville is poisoned by the smoke and gases from the numerous smelters, of which there are about twenty, in the neighborhood of the city.

Dr. Steinau, in a communication to the *Medical Record*, states that he has examined into the question, and comes to the conclusion that the amount of deleterious vapor, though large, is quantitatively insufficient to produce any poisonous effects. The gases from which danger is to be apprehended are those containing lead, sulphur, chlorine and arsenic. Estimating that each of the twenty furnaces around the city con-

sume thirty tons of ore per day, he finds that about ten ounces of chlorine, eighty pounds of sulphurous acid, and eighty ounces of arsenious acid would be given off every minute of the twenty-four hours. Most of the chlorine, however, unites to form solid chlorides; more than half of the arsenious acid fails to escape into the air, but is found in a solid condition in the speiss. The sulphurous acid is so diluted by the air that its presence is scarcely noticeable. The lead vapors are the most harmful, but their amount is small, and they can easily be prevented from escaping into the air. The conclusion, then, is, that the furnaces are not sources of danger from their poisonous emanations. This conclusion is confirmed by practical experience, as no cases of lead or arsenic poisoning have been found.

Dr. Steinau is of opinion that Leadville is in much greater danger from its neglect to care for the drainage of the city, and the disposal of filth. Nothing, he thinks, but the great natural salubrity of the place, with the high percentage of ozone in the air, has prevented an epidemic from occurring already.

Arsenic in Chorea.

According to *Bouchardat's Ann.* for 1880, we find that, from observations made in the service of M. Siredey, by M. Pomel, upon the treatment of chorea, the following deductions are made:—

1st. Of all the remedies employed in chorea, those which are the most rapid and sure are the arsenical preparations; particularly arsenious acid, which at once produces rapid amelioration of the symptoms, and brings about a speedy cure.

2d. Grave cases of chorea that have resisted other treatment yield, frequently with promptness, to arsenic.

3d. To obtain the full benefit of the arsenical treatment, it is necessary to administer the medicine in such doses as to produce, as speedily as possible, the constitutional effects or signs of arsenical saturation.

4th. Even in children affected with chorea, no hesitation should be felt in giving strong doses of arsenic, in order to reach the point of saturation quickly.

5th. Without denying the possibility of danger in the use of arsenic in the treatment of chorea, yet no case has thus far been recorded to establish the fact.

The preparation used by M. Siredey is Boudin's solution, containing 1 milligram ($\frac{1}{65}$th of a grain) of arsenious acid to 1 gram (15 grains) of solvent.

M. Siredey commences, in the case of a young and moderately vigorous subject, with ten grams of the solution a day, well diluted, and increases the dose each day by five grams. This dose is first diluted and then taken in divided doses during the day. Should vomiting or nausea occur the quantity must be diminished. For a child of eight or ten years, from two to four grams of the solution will be sufficient to commence with, increasing it daily by two grams.

Note by Translator.—As the solvent in Boudin's preparation is not given, Fowler's solution may be substituted. Its equivalent dose would be twenty minims daily, increased in the above proportion.

Correspondence.

A Case of Recurrent Fibroid.

Ed. Med. and Surg. Reporter:—

Ella S., a resident of Monroe county, single; age 23 years. Menstruated at the age of fourteen. Always enjoyed good health until the spring of 1879, when she consulted a physician, who pronounced her case prolapsus uteri. Shortly after, on the 23d of April, 1879, she consulted Dr. Hoffman, of Saylorsburg, Monroe county. Her symptoms at that time were sensations of pain in the pelvis, back and loins; also a leucorrhœa. On making an examination he found a gelatinoid polypus attached in the neck of the womb, about five inches long and one and a half inch in diameter, which he removed by torsion. In two weeks she had recovered from disease and operation.

On the 22d day of August she consulted Dr. Hoffman again, having a return of all her former symptoms. Physical examination revealed another growth, about half as long as the first and about three inches in diameter, of a more firm nature, which he also removed by torsion and she made a good recovery.

February 18th, 1880, she presented herself for the third time, with a return of all her former troubles, and on examination he found a tumor larger than the previous ones, dense and firm in character. He made two attempts to remove it, but failed. He then proposed consultation, and wrote for Dr. Seip and myself. We met in council on the 20th day of February, 1880; found the patient with symptoms as described by Dr. Hoffman; somewhat blanched, from loss of blood; retention of urine, from pressure of the growth on the urethra, requiring catheterization; considerable discharge, fetid in character, also pain during defecation. Physical signs by touch revealed a tumor filling the vagina, of a firm, elastic feel, more or less of a globular outline, and lobed sometimes by the pressure of an intersecting fascia or band. The physical signs

by speculum convinced us of the character of the tumor, viz., fibroid. Physical signs by sound revealed the capacity of uterus, and the existence of the growth and its attachment along the whole posterior portion of uterus and part of the fundus.

Treatment.—After having satisfied ourselves as to the character and extent of the tumor, we placed her upon a table covered with blankets and a pillow, in "Sims' position." Having introduced the large-size duckbill or Sims' speculum, and held it firmly in position, the loop of an ecraseur was thrown around the mass as high up as possible. Slowly and steadily it cut its way through the mass, the resisting fibrous tissue creaking under its pressure. Having done its work, we found a portion still remaining, which we removed by enucleation with the curved hysterotome and curved scissors. The hemorrhage was comparatively slight. After sponging the parts clean, the whole surface was penciled with full strength tinct. iodine. She was then put to bed and expressed herself comfortable. The after treatment consisted, constitutionally, in tonics, stimulants and nourishing alimentation, also ergot; locally, carbolized injections. In less than two weeks she was up and about.

On the 13th day of April, Dr. Seip and I were again called to see the case in council with Dr. Hoffman. Found the patient in the same condition again, the tumor having again returned, and was somewhat larger. We operated in the same manner, viz., ecruzement, and have here the specimen for your inspection. We removed a very large portion by enucleation again, which we did not preserve, as it had to be taken piecemeal. The after treatment was again the same, and the result favorable as to her getting up.

On May 8th, twenty-six days after the last operation, we were called for the third time to meet Dr. Hoffman. The tumor this time filled the vagina to its utmost, a portion protruding through the ostium vaginæ. The patient experienced considerable pain in the lower part of her abdomen; urination and defecation were interfered with; there was a very fetid discharge, together with the expulsion of large clots of blood. Appetite was poor, pulse about 120. The mass was of the same character, but softer, which was due to a partially decomposed condition. This time we removed the entire mass by enucleation; fortunately the os was dilated to admit the greater part of the hand, which facilitated operative procedure. There was considerable hemorrhage this time, and the operation being necessarily a slow and tedious one, she became weak. After having removed every vestige of the growth, tinct. iodine was again applied to the whole denuded surface, and she was then placed in bed. The pain was comparatively slight, considering the extent of the operation. The after treatment was again faithfully carried out by Dr. Hoffman, with such modifications as the exigencies of the case demanded, and in two weeks she was again up and about, visiting her neighbors, and went out carriage riding. Thus far the patient presented nothing unusual in her general appearance; she was plump, well developed and well nourished; she had a blanched appearance, which, of course, was due to the discharge and drain on her system; she presented no cachexia, neither any indication in the family history that would lead to any hereditary tendency to malignant disease. Unfortunately, a change took place in our patient, and the outbreak displayed itself in a bold and decisive character. The pulse became frequent and feeble, the appetite interrupted, the stomach irritable and nauseated, rapid emaciation, with pinched features, and the eyes sunk in their sockets, and the downward tendency was rapidly progressive. Death took place one month and four days after the last operation, and was evidently due to septicæmia, which manifests itself weeks and even months after surgical operations, and when the patient is apparently out of danger. There was no return of the growth. This was evidently a case of interstitial fibroid. A microscopical examination revealed nothing but a homogeneous mass of fibroid tissue, interspersed with connective tissue, having the unfortunate feature of recurrence after removal.

With reference to the propriety of removing uterine fibroids, there is a discrepancy of opinion among the medical profession. In 1853 the late Washington L. Atlee startled the profession by his method of heroically attacking uterine fibroids. His successes were numerous, and the ingenuity of his devices are deserving of the highest commendation; but it is only within the last six years that the profession have come to appreciate the great truths which he labored to establish. Meadows, of London, Thomas and Peaslee, of New York, and Goodell, of Philadelphia, have achieved splendid results in this direction, and made valuable contributions to our literature since Atlee led the way for us.

G. P. Fox, M.D.
Bath, Pa. W. H. Seip, M.D.

The Diploma Traffic.

Ed. Med. and Surg. Reporter:—

I enclose to you a clipping from the Pittsburg *Leader*, of June 10th, 1880, "About Doctors." The article dilates upon the expediency of the effort now being made in Philadelphia to suppress the traffic in bogus diplomas. The opinion which the *Leader* puts forth, that the effort will not be successful, I fully share with him. The *Leader* man hints at the root of the evil, and points out the only remedy that promises *permanent* success, when he says, "The only hope is that the people will learn to look less to diplomas, and more to the men themselves, in judging of doctors."

And again: "We believe that the best physicians would agree with us that perhaps the best way would be to let anybody call himself a doctor if he wants to, without a diploma at all, and then let the public themselves judge between the real doctors and the quacks."

On the same general principles that I condemn the "vigorous measures" "to destroy the cheap doctor shops" in your city, do I condemn the effort made to have a compulsory vaccination law enacted by our Legislature. You cannot force men, by legislative enactments or in any other way, to act above the level of their

intelligence, *persistently*, but they may be educated up to that level. In many respects the perpetuity of our form of government rests upon the individual responsibility of the citizen. It is important, therefore, that the citizen should be brought to a realizing sense of his individual responsibility, and if this object cannot be achieved in any other way, then let him have a sufficient amount of experience with cheap doctor shops, quack statesmen and quack doctors, smallpox, syphilis, free rum, etc., to cure him of his folly and bring him back to this realizing sense of individual responsibility. It is high time that we should all learn that legislative enactments are no specific for physical or moral evil. Such laws should be a reflex of the general intelligence or public opinion of the people. Such laws cannot successfully lead, but can only follow, and should be the index to, public opinion.

The remedy for all the evils that afflict society, as well as the body politic, is comprised in the one word, *education;* all else is quackery. Law is force; education is liberty. Force is not the battle cry of those who win the victories of the nineteenth century; much less will it be so in the twentieth. Education is the still, small voice that is silently speaking peace to our conflicting theories, and slowly but surely striking the shackles of ignorance from our minds.

As a means of advertising those great questions of reform, and thus bringing them prominently before the people, your efforts to suppress cheap doctors and other evils by legislative enactments and their enforcement may be commendable, but as to their being, in the long run, successful measures for reforming those evils, it is my opinion they will prove a failure.

Those who are such earnest advocates of legislative enactments to reform or suppress the many evils that afflict society or the State too often forget that this is not a patriarchal government, such as existed among the ancient Hebrews. Neither is it a paternal government, such as now exists in Germany, but it is a republic, based upon the suffrage and individual rights of the people. I think that, aside from education, the best way to suppress quack doctors would be to suppress quack legislators, by voting only for men who fully comprehend what can and what cannot be accomplished, in the direction of reform, by laws.

Now, Mr. Editor, as you have so ably advocated the compulsory plan of suppressing those evils, in your editorials, I hope you are willing to give space in your valuable REPORTER for the presentation of the other side of the question.

H. NYE, M.D.

Enon Valley, Pa., June 17th, 1880.

[We cheerfully give space to the above, and while we fully agree with our correspondent that the public should be at liberty to choose their own doctor, yet we believe it would be well if those from among whom to choose were all intelligent and well educated physicians. Where human life and health are at stake the Government should always exercise a supervising authority. Who would, for instance, think of manning an ocean passenger steamer with officers and crew consisting of shoemakers and tailors? And yet the average passenger has no means of ascertaining, before embarkation, whether the officers, sailors and engineers are competent men or not; and to make a passage in order to test them might be a dear experiment. And so it would be if the public were to test every idiot or charlatan who might choose to call himself a doctor.—ED.]

NEWS AND MISCELLANY.

Correction.

On page 549, second column, Dr. G. H. Lathrop's address is given as Wurtsboro, N. S., which should read *Wurtsboro, N. Y.*

International Otological Congress in Milan.

The members of the First International Otological Congress, held in New York, in 1876, decided that the second Congress should take place in the same city in which the International Ophthalmological Congress should meet. As the Ophthalmological Congress is to meet in Milan, Dr. Voltolini, of Breslau; Dr. Moos, of Heidelberg; Dr. Politzer, of Vienna; and Dr. Loewenberg, of Paris, have decided that the International Otological Congress shall also meet there, from the 6th to the 9th of September, 1880. A local committee has been formed, consisting of Professor Rossi, of Rome; Dr. Sapolini and Dr. Restellini, of Milan. Gentlemen who intend to attend the Congress are requested to communicate with Prof. Moos, at Heidelberg; and those who intend to read papers are also requested to inform him of the fact.

The Vivisection Question in Germany.

The *Medical Times and Gazette* for June the 5th, 1880, informs us that Professor Virchow, speaking the other day at the Committee to which the petitions to the German Reichstag against vivisection were referred, observed that the agitation was not only against vivisection, but endangered the entire experimental method. As, heretofore, Harvey's discovery of the circulation only became possible by means of experiments and researches made on living animals, so at the present time they are necessary in physiology, pathology, and pharmacology, neither research nor instruction being able to dispense with them. Many branches of science could not be carried on without them, and especially the physiology of the nervous system. In England, the laws against vivisection have done so much mischief, he added, that since their enactment no physiological work of any importance whatever has been accomplished. The Committee resolved to propose an order of the day, declaring that, in the interests of physiological inquiry, it is indispensable that vivisection should be carried on in educational institutions.

An Extenuating Circumstance.

A chemist's assistant was recently charged, before the Correctional Chamber of Paris, with causing the death of a man by misreading a prescription. The doctor, whose writing is very clear, ordered eight drops of laudanum, which the assistant carelessly read as eight grams, or about a quarter of an ounce. The overdose naturally killed the patient, and the court sentenced the prisoner to three months' imprisonment. The defendant's advocate very ingeniously urged as an extenuating circumstance that if the mistake had cost the deceased his life, it had at least provided him with a painless death.

Miscellaneous Articles Found in the Stomach of an Ostrich.

An ostrich, long on exhibition at Rome, having been suffocated by thrusting its neck between the bars, there were found in its stomach four large stones, eleven smaller ones, seven nails, a necktie pin, an envelope, thirteen copper coins, fourteen beads, one French franc, two small keys, a piece of a handkerchief, a silver medal of the Pope, and the cross of an Italian order.

Personal.

—Dr. C. Pollock, of Donnellsville, Ohio, has removed to Muncie, Ind.

OBITUARY NOTICES.

—Dr. W. Kent Gilbert, Coroner of Philadelphia, died at midnight, between June 28th and 29th, at his home, southeast corner of Ninth and Pine streets. He had been ill for about ten days, with typhoid fever. On Sunday he grew so ill that Dr. Packard, his physician, who was at Cape May, was sent for to attend him. He grew worse on Monday, and yesterday it was seen that death was inevitable.

Dr. Gilbert was a graduate of Jefferson Medical College, and was a physician having a very large practice. He was the son of Dr. W. Kent Gilbert, celebrated in his time, who lived years ago in an elegant mansion on Arch street below Eighth. In 1877 he was elected Coroner. He was a man of high professional attainments, and one of the most noted bibliomaniacs in the country. His collection of rare books and pamphlets is large and valuable. He visited all the great book sales, and continually added to his library. He was also possessed of a very fine collection of autographs and rare documents.

—Dr. James A. McCrea, of this city, committed suicide on the 22d of June, at his residence, No. 2004 Delancey Place, by severing the jugular vein and carotid artery with a razor, while taking a bath.

Dr. McCrea was born in this city in 1812. He was the son of John McCrea, for many years an East India merchant, who died leaving his son an ample fortune. At the age of 21 the Doctor was graduated at the Pennsylvania University, but he never practiced his profession, though he was connected, when a young man, with the Friends' Insane Asylum, Frankford, and the Blockley Almshouse. In 1859 he was appointed a member of the Board of Health, by the Court, and he has been reappointed every three years since that time. His term would not have expired until 1882. He acted as President of the Board for some years. He was also one of the Commissioners appointed to superintend the erection of the municipal hospital, which was dedicated in 1865. In all his public life he was independent to a degree that made him a terror to his associates, though his integrity, which was of the strictest kind, was never questioned. The disease which it is believed caused the aberration of mind that led to his death was of some years' standing. He lately became very much depressed, and for some time had not attended to his official duties. Only a few days ago he complained to Clerk Troth, at the Board of Health office, that he felt himself gradually breaking down. This seemed to prey upon his mind and caused the deepest despondency. The act which ended his life is not thought to have been premeditated.

QUERIES AND REPLIES.

In reply to query of Dr. H. W. M., of Iowa, numerous correspondents, both physicians and druggists, have sent us the following formula for Tully's powder:—

℞. Morphiæ sulph., partem j
Pulv. camphoræ,
Pulv. glycyrrhizæ radicis,
Cretæ prep.,
Sacch. albi, each partes xx. M.

N.B.—Some leave out the sugar, which, of course, alters the dose.

Another sends the following formula:—

℞. Cretæ preparatæ. gr. viij
Ipecacuanhæ, gr. j
Morphiæ sulph., gr. ⅛–¼
Camphoræ, gr. (j). M.
Ft. pulv. No. j.

Dr. C. G., of Connecticut, writes: In the REPORTER, of October 11th, 1879, Dr. Coover described a silicate of soda jacket for spinal disease. I thought it would be better than the plaster, and tried it on the first case that offered, but have not succeeded in making a good jacket. The silicate of soda which I have will not stick, and the patient's sweat softens it. Will some one be kind enough to tell me how to use the silicate, in your Answers to Queries.

Dr. J. M. B., of Pa., writes: I should like to have some advice upon a troublesome case of orchitis. I have used lead water and laudanum, iodoform and tincture of iodine, with but little effect. I am somewhat disappointed in the above remedies, as I have been using them successively for five weeks. Will some one be kind enough to suggest something that will help me through with the case.

Subscriber, Wis.—We do not know.

MARRIAGES.

WYSONG—NEWBOLD.—On June 17th, 1880, at the Church of the Saviour, West Philadelphia, by Rev. Charles Newbold, assisted by Rev. W. W. Farr, D.D., D. Preston Wysong, M.D., of Harford county, Md., and Rebecca M., daughter of the late Charles Newbold, of this city.

DEATHS.

MORRIS.—On Monday, June 14th, at his residence, Pelham, Westchester county, N. Y., Dr. Richard Lewis Morris, in the 75th year of his age.